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# EMERGING TRENDS IN CENSUS APPROACHES IN ASIA AND THE PACIFIC

## with country examples

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# ABBREVIATIONS AND ACRONYMS

| | |
|---|---|
| ABPRS | Address Based Population Registration System |
| ABS | Australian Bureau of Statistics |
| Armstat | Statistical Committee of the Republic of Armenia |
| BMIS | Border Management Information System |
| CAPI | Computer-Assisted Personal Interview |
| CATI | Computer-Assisted Telephone Interview |
| CAWI | Computer-Assisted Web Interview |
| COVID-19 | coronavirus disease 2019 |
| DOPU | Drop-Off/Pick-Up |
| ENEA | East and North-East Asia subregion |
| ESCAP | Economic and Social Commission of Asia and the Pacific |
| GPS | Global Positioning System |
| KOSTAT | Statistics Korea |
| NAD | National Address Database |
| NCA | North and Central Asia subregion |
| NSO | National Statistical Office |
| PAC | Pacific subregion |
| PAPI | Paper Assisted Personal Interview |
| PHRD | Population and Household Registration Database |
| RRR | Resident Registration Register |
| SEA | South-East Asia subregion |
| SPC | Pacific Community |
| SSWA | South and South-West Asia subregion |
| Statistics Indonesia | Badan Pusat Statistik (BPS - Statistics Indonesia) |
| Stats NZ | Statistics New Zealand |
| TurkStat | Turkish Statistical Institute |
| UNECE | United Nations Economic Commission for Europe |
| UNSD | United Nations Statistical Division |

# CHAPTER 1

# INTRODUCTION – GLOBAL CENSUS TRENDS

A population census has been a long-standing central responsibility of a National Statistical Office (NSO). Its scope and objectives have remained very similar over time; however, aspects of its methodology have evolved as technology has developed and demands have changed.

The main aim of a population and housing census is to fully enumerate a country's population and housing conditions to provide detailed demographic and socio-economic data at highly disaggregated geographical levels and for subpopulations. They provide a primary source of data needed for formulating, implementing, and monitoring a range of policies and programmes within a country, and comparing between countries.[1] In recent decades, both national and international frameworks for development, such as the Millennium Development Goals and the subsequent Sustainable Development Goals, have all increased the need for more comprehensive and granular demographic and socio-economic data to monitor the progress towards these goals. In this context, population and housing censuses play a crucial role in providing necessary disaggregated data for assessing the situation of people on a range of indicators. The level of disaggregation, especially geographically but also for smaller population groups, distinguish a census from what is possible through a survey.

## 1.1 Traditional censuses

A traditional census, in principle, entails canvassing the entire country, reaching every single household, and collecting information on all individuals within a brief stipulated period of time. Previously, this entailed visiting each household in the country and posing questions to the respondents from a census questionnaire. Respondents would sometimes be given the option of returning the questionnaire through mail. The information collected would be captured on paper questionnaires for later processing by the census team. Often, the census team would have to conduct a mapping exercise prior to the data collection phase in order to demarcate enumeration areas on maps. For both the mapping and data collection phases, NSO conducting the census normally must hire a large number of extra staff. While the data collection operation would normally be restricted to a few weeks, with a clear reference date for the information, the actual data processing could take years. Therefore, the final publication of the census results could be relatively late compared to the reference date.

Several trends over the last decades have impacted how censuses are conducted. While many countries still conduct what would be labelled a "traditional" census, advances in technology

[1] See https://unstats.un.org/unsd/demographic-social/census.

have enabled accelerating the collection and processing of census data whilst reducing the significant costs of the census operation.[2]

One such change was the introduction of Optical Character Recognition, which enabled paper questionnaires to be read by a scanner. While this reduced the data entry time significantly, it still required data to be captured on paper (Paper Assisted Personal Interview or PAPI) and some, albeit fewer, manual check-ups. With the ever-evolving development of computers, especially the introduction of laptops and hand-held devices, the possibility to capture data electronically emerged in the late 1900s and early 2000s. Later on, the introduction of smart phones and tablets escalated the possibilities for rapid data collection. These technologies significantly changed data collection by enabling electronic data entry directly in the field and eliminating the stage of entering data from paper questionnaires into a computer for processing. They also reduced (but did not eliminate) the need for manual check-ups. This approach was labelled Computer-Assisted Personal Interview (CAPI). Another version of this was Computer-Assisted Telephone Interview (CATI). Using telephone interviews to collect data from households having a telephone, limited the need for field visits to those who could not be reached by phone.

The spread of the internet made it possible to administer questionnaires to households and individuals without physically visiting them. While not everyone has access to the internet or is able or willing for various reasons to submit a questionnaire through the internet, this approach could significantly reduce the need for field visits or the duration of field operation. It also reduced the need to hire enumeration staff, as the respondents filled in the questionnaire themselves. This approach is labelled Computer-Assisted Web Interviewing (CAWI).

All these technologies or approaches made carrying out a census simpler, more cost-effective, and timelier. However, they did not alter a fundamental aspect of a census that everyone in a population had to provide information through a census questionnaire. This means that such data collection approaches are still considered “traditional”, even if they have vastly improved the efficiency of carrying out a census.